

REMARKS

Reconsideration and allowance of the subject patent application are respectfully requested.

Applicants gratefully acknowledge the indication that claims 54 and 55 are allowable and that claims 9, 10 and 53 contain allowable subject matter. Claims 9 and 53 have been written in self-standing independent and these claims (along with claim 10 which depends from claim 9) are now believed to be allowable.

Claims 1, 3, 5, 51 and 52 were rejected under 35 U.S.C. Section 102(b) as allegedly being "anticipated" by Katayama (U.S. Patent No. 6,750,476). While not acquiescing in this rejection, claims 1 and 51 have been amended. As such, the discussion below makes reference to the amended claims.

Amended claim 1 calls for a semiconductor device comprising an insulating substrate having a surface on which a first SiO₂ film is formed; a single-crystal silicon thin film having bonded thereto a second SiO₂ film, which single-crystal silicon thin film is bonded with the insulating substrate on a partial region of the insulating substrate via the first and second SiO₂ films; and a non-single-crystal silicon thin film comprising an active area of a transistor and formed on the insulating substrate in a region where the single-crystal silicon thin film is not bonded with the insulating substrate, which non-single-crystal silicon thin film is formed on the insulating substrate via the first SiO₂ film and a third SiO₂ film.

Katayama discloses a manufacturing method for a substrate device having a bonding interface on a substrate of a silicon-on-oxide structure. Specifically, with reference to process step (3), the semiconductor substrate 400 is vertically inverted so that insulating film 13 comes into close contact with insulating film 12. By conducting a thermal process in this state, the insulating films 12 and 13 are bonded together and mutually adhered at an interface 201. The office action identifies region electrode 204 of Katayama as the claimed non-single-crystal silicon thin film. Region 204 is an extension electrode which electrically contacts light shielding film 11a. There is no disclosure or suggestion in Katayama of the non-single-crystal silicon thin film comprising an active region of a transistor as claimed and, for at least this reason, Katayama cannot anticipate claim 1 or its dependent claims 3 and 5.

Claim 51 similarly calls for the non-single-crystal silicon thin film to comprise an active region of a transistor and thus Katayama likewise cannot anticipate claim 51 or its dependent claim 52.

Claim 4 was rejected under 35 U.S.C. Section 103(a) as allegedly being "obvious" over Katayama. The office action maintains that the thickness range of claim 4 would have been obvious. However, even assuming for the sake of argument that the claimed thickness was provided for the arrangement of Katayama, Katayama would nonetheless be deficient with respect to claim 1 (from which claim 4 depends) for the reasons set forth above.

Claims 12-15 were rejected under 35 U.S.C. Section 103(a) as allegedly being "obvious" over Katayama in view of Yale (EP 0 559 389). The office action relies on Yale as allegedly showing the features of the insulating substrate. However, the Yale document does not remedy the deficiencies of Katayama with respect to claim 1 (from which claims 12-15 depend). As such, the proposed combination of Katayama and Yale would not have made the subject matter of claims 12-15 obvious.


New claims 56-63 are added. Example support for these claims is shown in Figures 1-4 of the subject patent application. Claims 56-59 depend from claim 1 and claims 60-63 depend from claim 51. These claims are believed to be allowable because of this dependency and because of the additional patentable features contained therein.

The pending claims are believed to be allowable and favorable office action is respectfully requested.

Respectfully submitted,

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